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(54) **Echogenic medical device**

(57) An echogenic medical device includes a shaft having a proximal portion, a distal portion, first and second opposing longitudinal sides, and a passageway extending therethrough. The distal end includes a beveled opening communicating with the passageway, and extending between a distal tip portion disposed along the first longitudinal side and a heel portion disposed along the second longitudinal side. A first echogenic region extends circumferentially around the shaft at the distal por-

tion. The first echogenic region is structured for providing a signal visible along the circumference of the shaft under ultrasound visualization. A second echogenic region extends along a length of the second longitudinal side and is substantially aligned with the heel portion. The second echogenic region is structured and arranged for providing a generally linear signal visible under ultrasound examination along the second longitudinal side, and substantially not visible along the first longitudinal side.

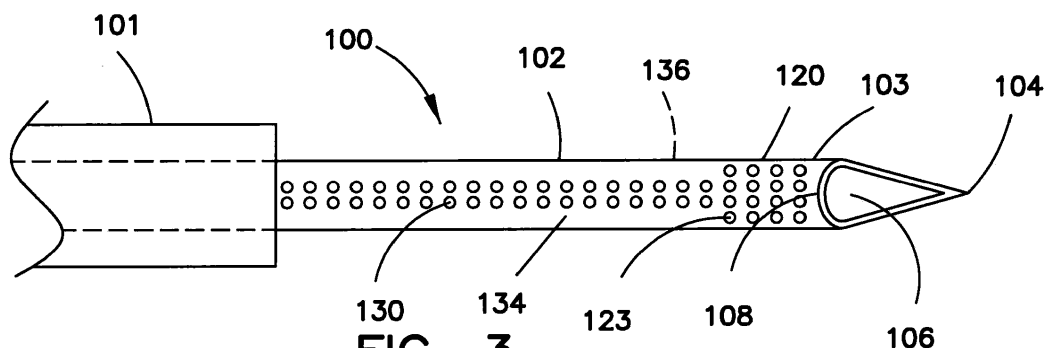


FIG. 3



EUROPEAN SEARCH REPORT

 Application Number
 EP 13 15 2223

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2010/128150 A1 (BRAUN MELSUNGEN AG [DE]; BLUM IRIS [DE]; SIPPEL MARTIN [DE]) 11 November 2010 (2010-11-11)	1,3,6, 12,13	INV. A61B17/34
Y	* page 20, paragraph 4 - page 25, paragraph 3; figures 4a-5, 8a-9c *	4,14	
X	US 2011/190660 A1 (LEVY MICHAEL J [US]) 4 August 2011 (2011-08-04)	1,2	
Y	* paragraph [0022]; figure 2a *	4,14	
X,D	US 2008/097213 A1 (CARLSON JAMES M [US] ET AL) 24 April 2008 (2008-04-24) * paragraph [0026]; figures 5, 7, 8 * * paragraph [0031] *	1,5-9	
X	US 2011/160592 A1 (MITCHELL CHRISTOPHER [AU]) 30 June 2011 (2011-06-30) * paragraph [0119] - paragraph [0125]; figures 9-11 *	1,3,5	TECHNICAL FIELDS SEARCHED (IPC) A61B
X	US 2003/040756 A1 (FIELD STEPHEN JAMES [GB]) 27 February 2003 (2003-02-27) * paragraph [0028]; figure 4 *	1,2,10	
X	US 2009/182192 A1 (SHIONO JUNJI [JP] ET AL) 16 July 2009 (2009-07-16) * paragraph [0063] - paragraph [0067]; figures 6a,b, 23a-c *	1	
A	US 5 766 135 A (TERWILLIGER RICHARD A [US]) 16 June 1998 (1998-06-16) * column 3, line 52 - column 4, line 9; figures 1-4 *	1,14	

1 The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 22 April 2013	Examiner Moers, Roelof
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

EPO FORM 1503 03-82 (P04C01)



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-10, 12-14

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 13 15 2223

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-10, 12-14

Medical device having first and second echogenic regions.

2. claims: 9, 15

Medical device having echogenic region with geometric configuration defining at least two angles.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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22-04-2013

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82